67029 BASAL METABOLIC RATE IN PATIENTS WITH TYPE 2 DIABETES: COMPARISON BETWEEN MEASURED AND ESTIMATED VALUES

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Introduction and objective: Precise assessment of basal metabolic rate (BMR) is essential in clinical dietetic practice. The aim of this study was to investigate which of the seven selected predictive equation for estimating basal metabolic rate (BMR) was the best alternative to indirect calorimetry (IC) in patients with type 2 diabetes. Materials and **Methods:** Twenty one patients with type 2 diabetes participated in this diagnostic test study. Clinical and laboratorial variables were evaluated as well as body composition by absorptiometry dual X-ray emission (DXA) and BMR measured by IC and estimated by prediction equations. Dietary intake was evaluated by a quantitative food frequency questionnaire (FFQ). Data were analyzed using Bland-Altman plots, paired t-tests, and Pearson as correlation coefficients. **Results:** Our patients were aged 62 (48-70) years, had a diabetes duration of 8 (2-36) years, and 52.4% were females. The body composition comprised a fat-free mass of 49.8 ± 9.4 kg and a fat mass of 28.3 ± 7.2 kg. The energy intake by the FFQ was 2134.3 ± 730.2 kcal/day and the BMR by IC was 1745.3 ± 314.7 kcal/day. A wide variation in the accuracy of BMR predictive equations as compared with IC was demonstrated. The equations reported by Harris-Benedict, Oxford, and FAO/WHO/UNO had the smallest differences to IC, with a general bias of < 8%. The FAO/WHO/UNO equation was the one that most closely approached the real BMR, underestimating IC measurements by -5.6% kcal/day. **Conclusion:** In patients with type 2 diabetes, the equation of the FAO/WHO/UNO was the one closest to the BMR values as measured by IC.